

Conserving Our Soil



Soil is a precious resource.



Soil conservation is our responsibility.



Soil surveying is important to our conservation efforts.

Field Study



Sampling soils for laboratory analyses.



The study of soils offers a challenge to the most experienced soil scientists.



A water table study of soils conducted in North Carolina.

Landscape Analysis



Landscapes reflect differences in soils.



This complex landscape is located in Colorado.

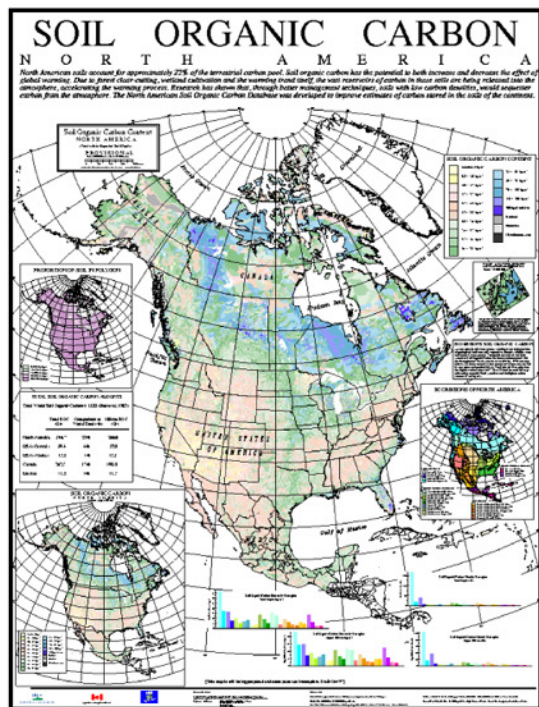


Vegetation differences often suggest differences in soils.

GIS Applications



Geographic Information Systems (GIS) are used to display soils information in electronic form.



Training is given in GIS applications.

Laboratory & Research Applications



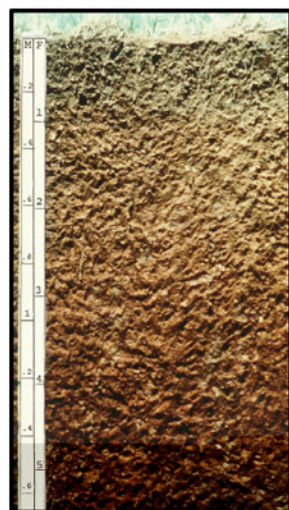
NRCS employee prepares for moisture studies.



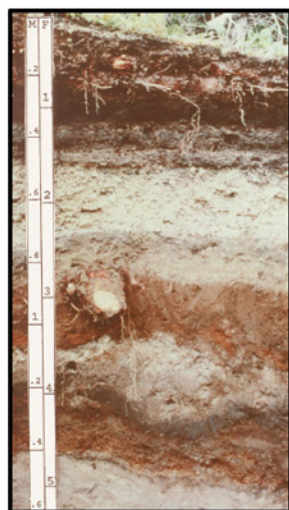
Research soil scientist analyzes soils.

Natural Resources Conservation Service

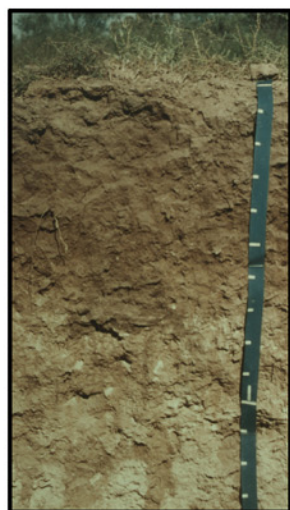
Soil Science -- A Career For You



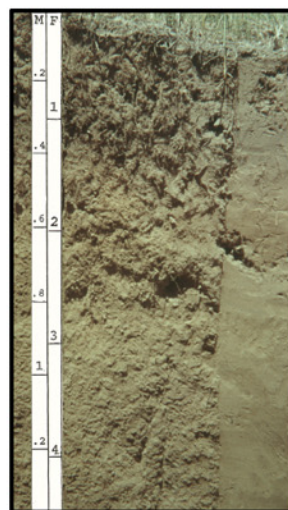
Alfisols -- Soils that are in semiarid to moist areas and have a clay- and nutrient-enriched subsoil. These soils occur dominantly in the central and northern parts of the United States. They commonly have a mixed vegetative cover and are productive for most crops.



Andisols -- Soils that commonly formed in volcanic parent material. These soils have high porosity, particle surface area, and water-holding capacity. They are common in the volcanic areas of Alaska, Hawaii, and the Pacific Northwest.



Aridisols -- Soils commonly in the deserts of the western part of the United States. These soils have diagnostic horizons and commonly have salts.



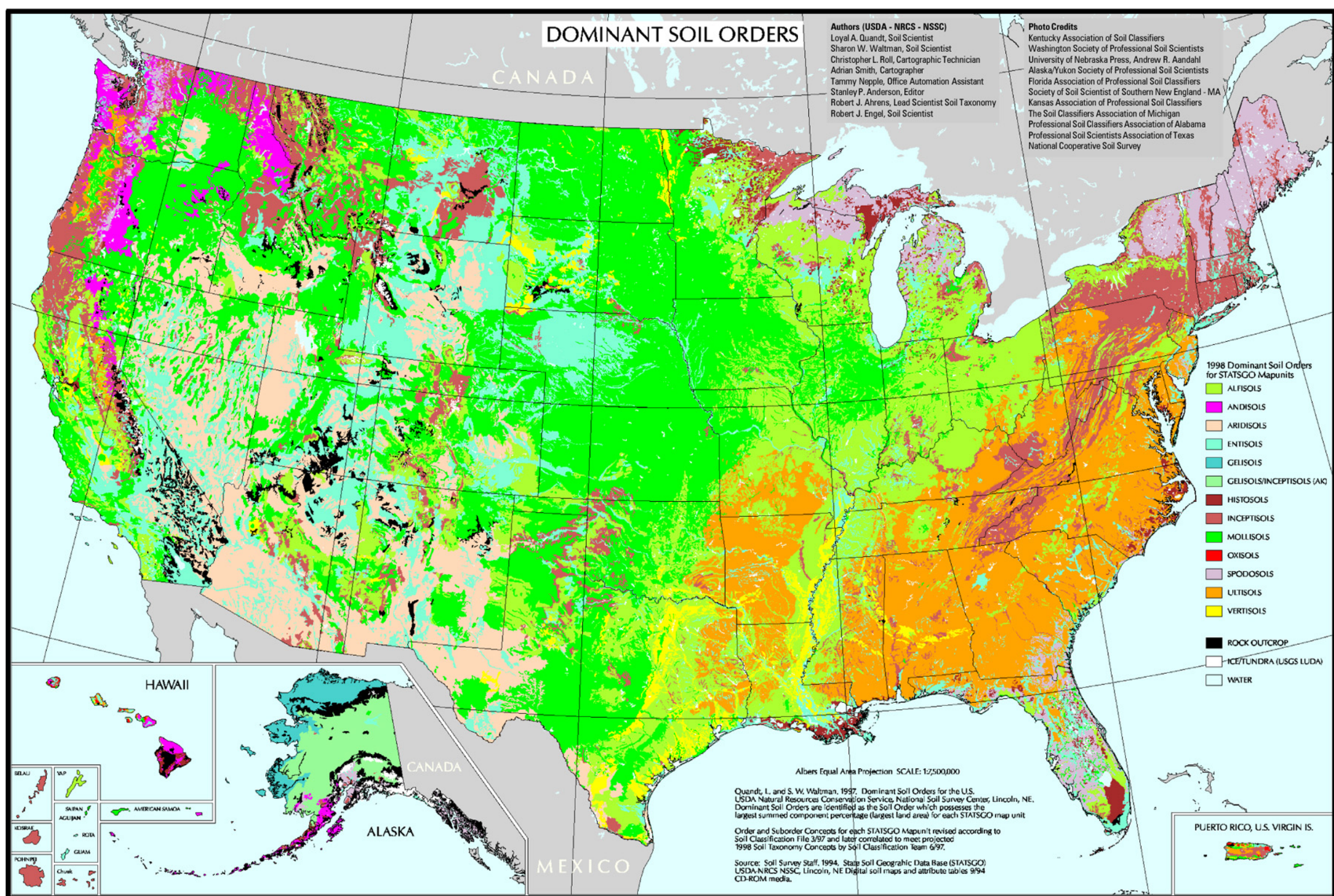
Entisols -- Soils with little or slight development and with properties reflective of their parent materials. They include soils on the steeper slopes, on flood plains, and on sand dunes. They occur in many environments.



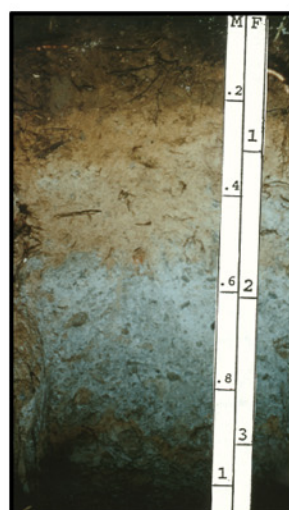
Gelisols -- Soils that commonly have a dark organic surface layer and mineral layers overlying permafrost. These soils are common in tundra regions of Alaska.



Histisols -- Soils that are dark colored and have slightly decomposed to well decomposed organic materials derived from sedges, grasses, leaves, and hydrophytic plants. These soils dominantly are poorly drained and occur in low-lying areas throughout the central and eastern parts of the United States.



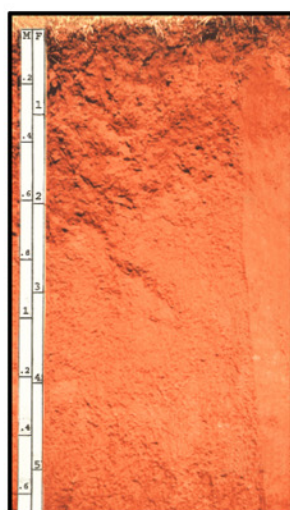
Inceptisols -- Soils that have diagnostic horizons but do not have clay enrichment in the subsoil. These soils occur in a wide range of moisture and temperature environments.



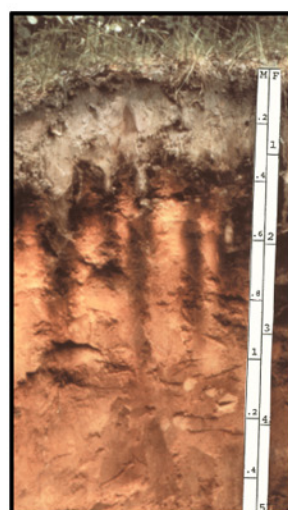
Mollisols -- Soils with a dark colored surface horizon. These soils are rich in nutrients throughout the profile. They commonly occur on the Great Plains in United States and formed in a grassland environment.



Oxisols -- Strongly weathered, reddish or yellowish soils, commonly in humid, tropic or subtropic areas. These soils do not have distinct horizons and are very low in content of nutrients. They are dominantly in Hawaii.



Spodosols -- Soils of warm to cool, humid regions in the eastern part of the United States, the Lake States, the Pacific Northwest, and Alaska. These soils commonly have a light gray eluvial horizon over a reddish, aluminum- and/or iron- enriched horizon. They commonly have a coniferous tree cover.



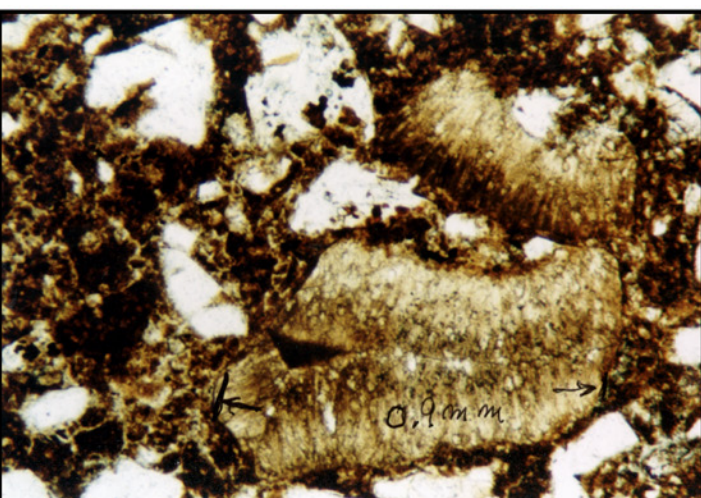
Ultisols -- Soils that are in moist areas and have a clay-enriched subsoil that is low in content of nutrients. These soils are dominantly in the southeastern part of the United States and commonly have a moderate vegetative cover. They are moderately productive for row crops with proper soil amendments.



Vertisols -- Soils that are high in content of clay and that shrink markedly and develop cracks when they become dry and swell markedly when they become moist. The shrinking and swelling can damage buildings and roads. These soils are dominantly in the central and western parts of the United States.



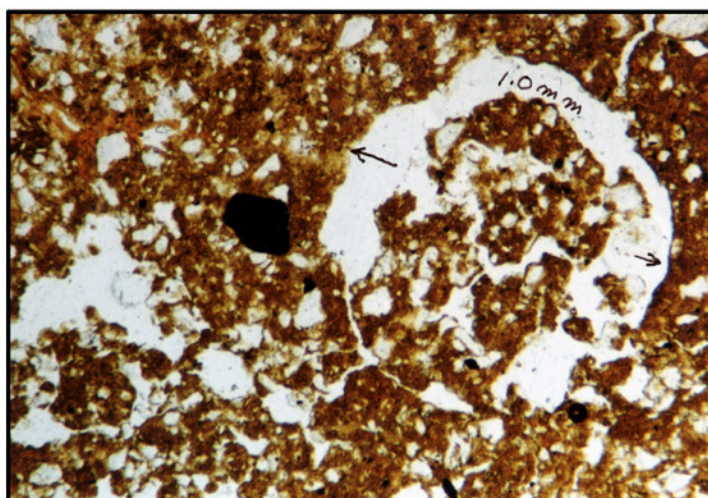
Take a Close Look At Soils



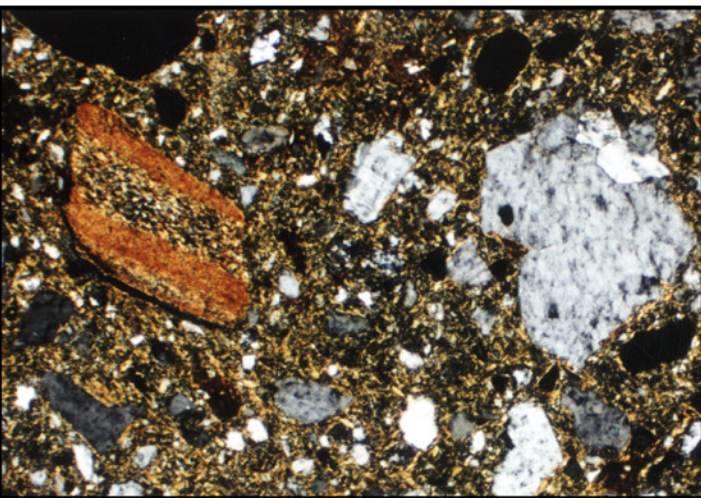
Photomicrograph of a soil with sand-sized grains of quartz and gibbsite.



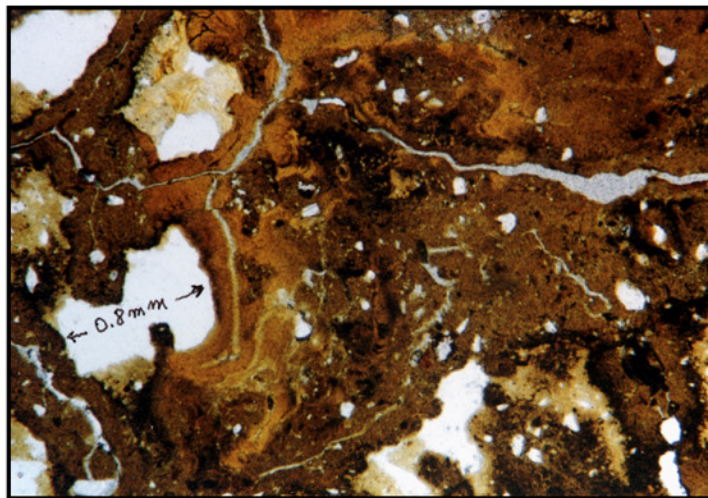
A research soil scientist uses an image analyzer for soil microscopy.



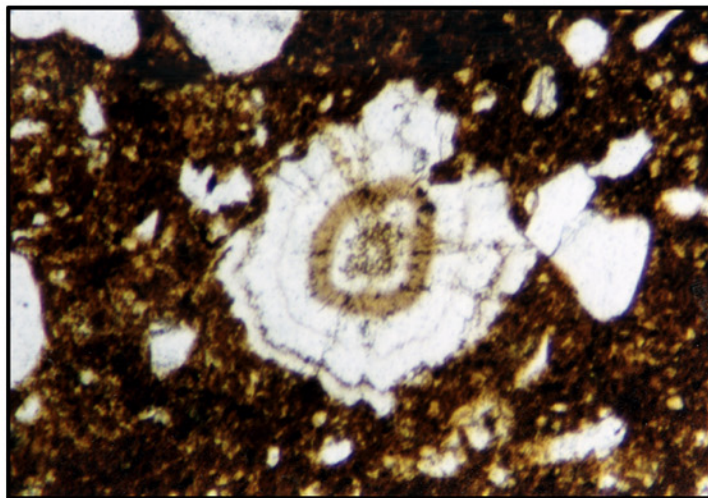
Photomicrograph of a fine textured soil with a partially filled termite hole.



Photomicrograph of a medium textured soil with a sand-sized shale fragment on the left and quartz grains on the right.



Photomicrograph of a fine textured soil with clay illuviation along channels.



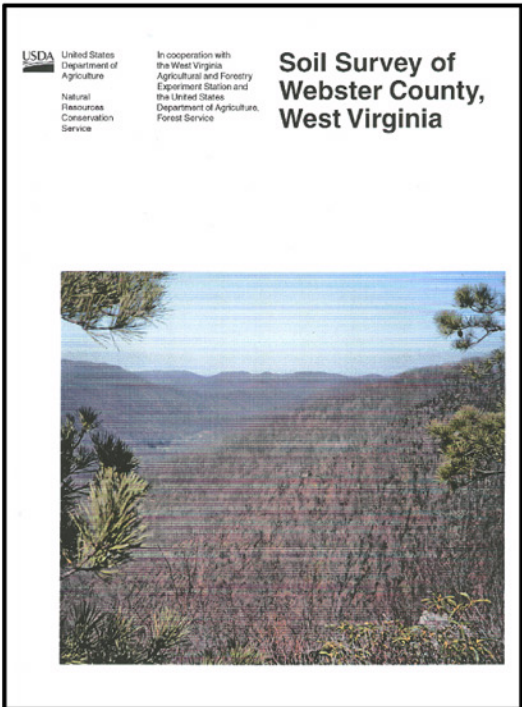
Photomicrograph of a soil with a gibbsite grain.



Soil Scientists Make A Difference



Brochures assist users of soil surveys.



Soil Survey of Webster County, West Virginia.



Soil is the natural medium for plant growth.

Teaching



Field observation of soils in southern California.



Future soil scientists learn to use soils databases.



Field day for farmers in eastern Botswana.

Soil Uses & Applications



Soils are important to urban development.



Irrigated citrus grove in southern California.



Irrigated vineyard in Napa Valley, California.



Corn and hay stripcropping in Nebraska.



Cherry orchard in Oregon.



Wildlife management in northern Botswana.



Planting corn in central Nebraska.



Wildlife buffer area in east Texas.

What is Soil?

Soil is the natural medium for plant growth. It is our most precious resource and provides for a wide range of uses from cropping to road foundations. There is a wide variety of soils even within a short distance. Soil scientists characterize soils to help others use and manage them efficiently. Opportunities to make a difference exist with the many challenging careers in soil science.

Minimum Requirements for a Soil Scientist	Recommended Course Work	Areas of Specialization	Research Needs
<ul style="list-style-type: none">❖ Four-year degree in soil science or related discipline with 15 semester hours of soils courses; or❖ A combination of educational background and experience	<ul style="list-style-type: none">❖ GIS-Related Courses❖ Statistics❖ Environmental Sciences❖ Communications	<ul style="list-style-type: none">❖ Soil Surveyor❖ Research Soil Scientist❖ GIS Specialist❖ Soil Chemist❖ Soil Physics❖ Soil Mineralogist❖ Landscape Analyst❖ Soil Microbiology	<ul style="list-style-type: none">❖ Remote Sensing❖ Water Quality❖ Waste Management❖ Data Warehousing❖ GIS/GPS Research❖ Nutrient Management